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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/988,407 | 11/19/2001 | Hideo Furukawa | VX012384 | 8523 |

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ALEXANDRIA, VA 22314

EXAMINER

SORKIN, DAVID L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1723

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,407

Applicant(s)

FURUKAWA, HIDEO

Examiner

David L. Sorkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. In claim 3, line 8 the word - - at - - apparently should be inserted after "provided".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook et al. (US 4,533,254). Regarding claims 1 and 5, Cook ('254) discloses an apparatus comprising mixing means (12,22); pressure rising means (26) and emulsifying means (1) wherein the emulsifying means includes a plurality of chambers (for example 124 and 130) into which the mixture flows, the chambers arranged in series and partitioned by walls (see Fig. 13), and the walls having one or more small holes (for example 150 and 151). Regarding claim 3, Cook ('254) discloses an apparatus comprising mixing means (22); pressure rising pump (26) and emulsifying means (1) wherein the emulsifying means includes a plurality of chambers into which the mixture flows, the chambers portioned by walls, and the walls having one or more small holes (for example 75). The pump would be capable of providing a pressure in the claimed range (see col. 8, lines 30-31). Regarding claim 10, a pre-pressurizing pump (9) upstream of the main pump is disclosed. Regarding claim 12, as seen in Fig.

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1, the mixing means has several inlets for various fluids corresponding to sources 2, 3, 4 and 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 6-9, 13-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. (US 4,533,254). Regarding claims 2, 4, 6 and claims dependant therefrom, in the apparatus of Cook ('254) discussed above it is not expressly stated that the size of the hole is in the range 0.5 to 2 mm; however, col. 8 lines 3-24 makes clear that this is a parameter to be selected and optimized. Further regarding claims 4 and 6, Cook ('254) discloses an apparatus comprising mixing means (22); pressure rising pump (26) and emulsifying means (1) wherein the emulsifying means includes a plurality of chambers into which the mixture flows, the chambers portioned by walls, and the walls having one or more small holes (for example 75). The pump would be capable of providing a pressure in the claimed range (see col. 8, lines 30-31). Claims 7, 9, 13, 14 and 17 would have been obvious to one of ordinary skill in the art to control flow. Claims 8, 15 and 16 would have been suggested to one of ordinary skill in the art by the discussion of diesel fuel in col. 13, lines 60-68. The pump would be capable of providing a pressure in the claimed range (see col. 8, lines 30-31). Regarding claim 18, a pre-pressurizing pump (9) upstream of the main pump is

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disclosed. Regarding claim 12, as seen in Fig. 1, the mixing means has several inlets for various fluids corresponding to sources 2, 3, 4 and 5.

Allowable Subject Matter

6. Claim 11 is allowed.

Response to Arguments

7. Applicant has amended claim 1 to require chambers arranged in series. The statement of the grounds for rejection has been changed to point out portions of the reference which disclose this aspect of the invention.

8. Applicant discusses the intended pressure of a fluid intended to be present in the claimed structure during an intend operation. However, "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself" *In re Casey* 152 USPQ 235 (CCPA 1967). Col. 8 lines 30-31 make clear that the pump would be capable of providing the pressure mentioned in the claims, as it states "a pump capable of developing up to 10,000 psi".

Conclusion

9. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David L. Sorkin
Primary Examiner
Art Unit 1723

DLS